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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/669,226	09/24/2003	Dean R. Jones	28679/05413	2140

24024 7590 12/17/2004

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EXAMINER

SICONOLFI, ROBERT

ART UNIT	PAPER NUMBER
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3683

DATE MAILED: 12/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/669,226

Applicant(s)

JONES ET AL.

Examiner

Robert A. Siconolfi

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WU

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) 14-16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-13 and 17-23 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 20040816.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: ____.

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DETAILED ACTION

1. Information Disclosure Statement filed on 8/16/04 has been received.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-13 and 17-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cumming et al (U. S. Patent no. 3,949,840) in view of Sturdevant (U. S. Patent no. 6,305,236).

Cumming et al discloses: see figures worm gear 30, worm 44, shoulders 76,78, support structure 79,80,81

Cumming et al does not specifically disclose the use of low friction rings. Sturdevant teaches the use of bearings, which are inherently low friction, to support a worm gear (see figure 4 bearings 36, worm gear 34, worm 38). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use bearings to support the worm gear as taught by Sturdevant in the slack adjuster of Cumming et al in order to reduce the number of elements for support thus reducing costs(reduction of materials, time to assembly). The use of bushings also allows for greater brake force since the worm gear is not as likely to bind.

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Regarding claims 5,6,10,11, Nylon and oil impregnated bronze are both well known bearing (bushing) materials. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use nylon or oil impregnated bronze in the slack adjuster of Cumming, as modified, as both materials have good durability and frictional characteristics which are important for bushings.

Regarding claims 7,13, the examiner takes official notice that split ring bearings are old and well known and it would be obvious to use split rings bearings in the slack adjuster of Cumming, as modified, in order to ease installation.

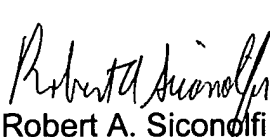
Regarding claims 9 and 23, the examiner takes official notice that bearing sleeves are old and well known and it would be obvious to use bearing sleeves in the slack adjuster of Cumming, as modified, in order to provide a great surface area to support the worm gear and thus withstand larger bearing forces.

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4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert A. Siconolfi whose telephone number is 703-305-0580. The examiner can normally be reached on M-F 10 am-3 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Bucci can be reached on (703) 308-3668. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

 12/13/09
Robert A. Siconolfi
Examiner
Art Unit 3683

RS